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ABSTRACT

Nineteen Ojibwa families with 3- to 11-year-olds from Bay Mills reservation in Michigan were studied to identify: (1) the relationship between quantity and quality of grandfather involvement in their grandchild's rearing and the grandchild's academic and social functioning; and (2) antecedents to this involvement. Quantity of grandfather involvement was assessed using a modified version of the Paternal Involvement in Child Care Index. Quality of grandfather nurturance was assessed with a modified version of the Parent Perception Inventory. Children's academic functioning was measured through grades, teacher evaluations, and the Otis-Lennon School Ability IQ Test. For social functioning, teachers completed the Child Behavior Check List and the American Indian Adaptive Functioning Check List. Findings indicated that father's perception of a higher level of grandfather involvement in childrearing was related to higher language report card grades and higher teacher ratings of the child as a future community leader. Overall, perception of a higher quantity of grandfather childrearing was related to higher boys' science and math grades and teacher ratings of the child as less self-destructive. The greater the amount of time the grandfather spent as primary caregiver, the better the child's social functioning in areas believed important to Native American populations. Grandfathers who were working and healthy spent more time as primary caregivers than unemployed or unhealthy grandfathers. Mothers' reports of higher grandfather nurturance may be associated with lower Otis-Lennon IQ scores. Fathers' reports of higher grandfather nurturance may be associated with higher language grades. (Contains 42 references.) (KDFB)

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Grandfather Involvement in Childrearing and the School Performance of Ojibwa Children

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Running Head: Ojibwa Grandfathers

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Abstract

This study of nineteen Ojibwa families examined the relationship between quantity and quality of grandfather involvement in rearing their grandchildren and the grandchildren's academic and social school performance. Antecedents to higher levels of involvement were also explored. Data were analyzed for the whole group and for males. The amount of grandfather involvement correlated with the cognitive competence of the children, especially boys, and with teacher ratings of social adaptive functioning particularly in terms of American Indian values. For the total sample and for males higher levels of quantity and better quality of grandpaternal involvement in child rearing was predicted by grandfather's greater social competence. The results are discussed primarily in terms of the traditional role of the grandfather in American Indian families.

Grandfather Involvement in Childrearing and the School Performance of Ojibwa Children

Although the studies regarding developmental outcomes for grandchildren when grandfathers are involved in their upbringing are relatively few (Oyserman, Radin, & Benn, 1993), enhanced cognitive (Gottfried, Gottfried, & Bathurst, 1988; Hoffman, 1989; Radin, 1972; 1982; Zaslow, Rabinovich, & Suwalsky, 1991) and socio-emotional functioning (Radin, 1986; Santrock & Warshak, 1979; Santrock, Warshak & Elliot, 1982) have been amply demonstrated when fathers are involved in child care. To the extent that it is the "maleness" in men that exerts influence, especially on boys (Radin, 1986; Rossi, 1984), it is possible that grandfathers may have a similar although weaker influence. For example, according to Rossi (1984) new research on parenting shows there is "greater empathy, affiliation, sensitivity to nonverbal cues and social skills in women" and "greater emphasis on skill mastery, autonomy and cognitive achievement in men" (pg. 8). Therefore, it might be expected that those grandchildren who experienced higher levels of exposure to their grandfathers would themselves attain higher levels of skill mastery, autonomy, and cognitive achievement.

Research on grandfathers has focused on the antecedents to their participation in child care. For example, it appears that the age of both grandfather and grandchild is an important influence in the decision to become involved in his grandchild's upbringing (Gutmann, 1977; Livson, 1981; Tinsley & Parke, 1988).

William W. Warren's History of the Ojibway People (1984) refers to elders as being given respect and consideration by other tribal members, and of the wise old men who tell the tribal traditions and attend to religious duties. In spite of the importance which elders assume in all Native societies (Red Horse, Lewis, Feit, & Decker, 1978; Locust, 1988), no studies have empirically examined the contributions these American Indian grandfathers make in child rearing and the antecedents of their involvement. This investigation, which focused on the consequences and antecedents of Ojibwa grandfather participation in child rearing, was an attempt to help fill this gap.

Social learning theory (Bandura, 1986), which proposed that powerful and nurturant fathers facilitate cognitive and social development in children, can be extended to grandfathers. This theory held that fathers who have status, and who are perceived as competent, warm and powerful are potent models for their children, particularly for their sons. These attributes are uniquely descriptive of American Indian elders who function as wise, role models in Native society where value is placed on learning by observing how others behave (Joe & Malach, 1992; Locust, 1988).

A few recent studies have begun to demonstrate empirically that benefits accrue for youngsters when grandfathers are actively involved in child rearing. A study of grandfathers in working-class families with a single teen mother and her baby under age 2 (Oyserman, Radin & Benn, 1993) indicated that higher levels of grandfather participation was associated with less

negative affect displayed by the children for the total sample and the subsample of grandsons. This same study indicated that the degree of grandfather's observed nurturance with his grandchild was predictive of the youngster's level of cooperation with maternal requests and with cognitive competence of the two year-old grandchildren. Another study of 7 month old infants similarly found observed grandfathers' nurturing behavior to be associated with the cognitive competence of their infant grandchildren (Tinsley & Parke, 1988).

Research has indicated that an important factor influencing grandfather's decision to participate in the care of his grandchildren is his age. A popular theory is that men become more nurturant as they age (Gutmann, 1977; Livson, 1981). In a survey of grandparenting satisfaction and perceived responsibilities in grandchildren's upbringing (Thomas, 1984) it was found that relatively older grandfathers (mean age of the sample was 68 years) would be more likely to have experienced an increase in expressivity and the desire to nurture. The study indicated that the age of the grandchild was also a factor as the presence of younger grandchildren provided these grandfathers with the most opportunities for expressing their nurturing capacities. Other researchers have also reported that younger grandchildren are more appealing to older grandparents (Clark, 1969; Kahana & Kahana, 1970).

On the other hand, Cherlin and Furstenberg (1986) reported that when grandparents were younger in age they were more likely to engage in a reciprocally helpful relationship with the

youngsters. Tinsley and Parke (1988) who studied grandfathers interacting with their young grandchildren found that those in the middle age group (50-56 years old) as opposed to younger (36-49 years) or older grandfathers (57-68 years) were rated significantly higher on competence and play style. The results were interpreted in terms of a life-span developmental perspective. The middle group of grandfathers were both physically and psychologically ready for grandparenthood. Cherlin & Furstenberg (1985) and Kivett (1985) in independent studies both report that grandparents' health did not have an effect on the frequency of contact grandparents had with their grandchildren. The issue of the status of grandfather's employment seems not to have been discussed in the literature on grandfather involvement.

Grandfathers are likely to view grandparenting as an opportunity to share information with grandchildren and to take pride in their grandchildren's accomplishments (Crawford, 1981). Grandparents, as valued elders, often view themselves as links to past generations who are now able to pass on family history and guide the new generation (Kivnick, 1988). This may be especially true in American Indian families where grandparents are the leaders of family communities (Red Horse, Lewis, Feit, & Decker, 1978) and emphasis is placed on preparing children for future community involvement (Brant, 1990).

In view of the above conceptualizations and empirical data concerning grandfathers and generalizing from studies pertaining to paternal influence two hypothesis were generated concerning

these Ojibwa families: (1) there will be a positive relationship between the quantity of grandfathers' involvement in child rearing and their young grandchildren's academic and social functioning; and (2) there will be a positive relationship between the quality of grandfathers' involvement in child rearing and their young grandchildren's academic and social functioning.

Three additional questions, for which the scant literature did not support the formulation of hypotheses, were asked. Is there an antecedent relationship between quantity and quality of grandpaternal involvement and: (1) grandfather's health; (2) grandfather's work status; and (3) the demographic variables of child's age and mother's and father's age which were used as markers for grandfathers age?

Method

Sample

The sample was selected from the families living on the small Bay Mills Reservation located on Lake Superior's Whitefish Bay in Michigan's Upper Peninsula near Sault Ste. Marie and the Canadian border. To be eligible for this study, a family had to: (1) include a child 3 to 11 years of age; and (2) be intact or with a grandfather in the home or living nearby. Step-parents and live-in significant others were considered a part of the family unit. The nearest grandfather was identified by the parents, who were asked the following question: "Does your child have a grandfather who lives nearby?" If the answer was yes and there was more than one grandfather who lived nearby the parents

were then asked: "Which grandfather is closest to your child?" Other aspects of the study involved an examination of paternal influences (Radin, Williams, & Coggins, 1993; Williams, 1995), thus families with fathers but no grandfathers were included. The study's target child was the oldest eligible child in the family.

Nineteen families volunteered to participate in the study. Sixteen were complete with a mother or stepmother, father or stepfather, grandfather, and child. Two of the 19 family units reported that there was no father or stepfather in the home. One of the families with 2 parents reported that there was no grandfather living nearby. There were 78 American Indian families, 53 intact and 25 single parent families living on the reservation. The response rate for the 53 eligible two-parent families was 33% as 16 such families agreed to participate. A response rate for the total group of families could not be estimated because of the lack of information pertaining to the availability of a nearby grandfather for the sub-sample of single parent families. From the pool of 19 families participating, data were collected from 33 adults who were willing to fill out a questionnaire. Fifteen mothers, 14 fathers, and 4 grandfathers were included in the sample. In Table 1 are presented the means and standard deviations for the sample's demographic variables.

Insert Table 1 about here

The mean ages of the mothers and fathers respectively were 34.1 and 33.7. The mean age of the grandfathers who responded to the questionnaire was 63.0. Mothers and fathers in this sample on the average had one year of college. Grandfathers who responded to the questionnaire, on the average, had completed the 11th grade. In the Bay Mills Indian Community as a whole, 84% of the adults had at least a high school education and 56% had some college (Sobeck, 1990). It should be noted that there is a community college on the reservation.

Information regarding occupation was gathered directly from each respondent except in the case of grandfather's occupation where information was reported by the parents for the grandfather who was closest to the child. According to the Hollingshead Four-Factor Index of Social Status (1975) the mothers' and grandfathers' average occupational rating was at the level of clerical and sales worker while the fathers' average occupational rating was at the level of skilled manual worker and craftsman. Thus the families could be considered working class.

The mean age for the 19 children was 8 years, 6 months. For boys the mean age was 8 years, 8 months and for girls the mean age was 7 years, 9 months. A student t-test indicated no significant differences in age between the males and females. Because there were only 6 girls represented in this sample, gender analysis included males only. The mean grade in school was 5.1 for boys and 4.8 for girls. Scoring for grade in school

ranged from Headstart = 1 to fifth = 7. Therefore, the mean grade in school was about third grade for both boys and girls.

Procedure

Potentially eligible families with a child in grades K - 5 or Head Start were recruited by means of a letter describing the study, indicating the Tribal Council had approved the study, and inviting them to participate. Mothers, fathers, and grandfathers of each family agreeing to participate were interviewed separately. The interviewers who administered the questionnaire were 3 Ojibwa undergraduate students enrolled in the Bay Mills Community College located on the reservation, an Ojibwa employee of the Tribal Council, and an Odawa University of Michigan doctoral student, a co-author of this paper. With the exception of the doctoral student, all of the interviewers were members of the Bay Mills Community. It was felt by the Tribal Council that Ojibwa interviewers would facilitate access to the sample and contribute to the education of the Bay Mills Community College students.

Independent Variables

Quantity. The amount of grandfather involvement was assessed by a modified version of the Paternal Involvement in Child Care Index (PICCI), (Radin, 1981). The instrument was developed to examine antecedents and consequences of high father involvement when fathers in intact families take on a large share of the responsibility for their preschool child's care. The scale included the sum of both mothers' and fathers' responses in five areas: (a) statements of father's overall

involvement in child care; (b) father's responsibility for physical child care; (c) father's responsibility for socialization of the child; (d) father's involvement in decision making regarding the child; and (e) father's availability to the child. This index has been shown in several studies to be both valid and reliable (Bernadett-Shapiro, 1993; Radin, 1982; 1990; Radin & Goldsmith, 1983; Radin & Sagi, 1982).

A modified Paternal Involvement in Child Care Index for grandfathers (GF-PICCI) was developed in this investigation and was comprised of four of the five original PICCI components. As the availability component did not significantly correlate with mother's, father's, or grandfather's view of any of the other four component scores it was eliminated from the index. It may be that life on this reservation is different from ordinary life in a city, particularly with a casino open evenings and late nights.

Separate total scores were computed for mother's, father's, and grandfather's perceptions of the grandfather's involvement in child rearing. In the analysis the mothers' total scores and the fathers' total scores across all four of the GF-PICCI components were used as independent variables. There were too few grandfathers (4) to use their scores alone. The Grand Total GF-PICCI was then computed by averaging all respondent scores for each family, e.g., mothers', fathers', and grandfathers' total scores. Cronbach's alpha (Cronbach, 1951) was computed to assess internal consistency. The alpha value

was .55 for the Grand Total for grandfather involvement. Higher GF-PICCI scores reflect higher grandfather involvement.

The second measure used to assess the amount of grandfather participation was one question on the GF-PICCI statement of overall involvement component regarding the percentage of time he was the child's primary caregiver when the child was awake and not in school, away from home, or with a sitter. One of the prior studies employing the PICCI (Radin, 1982) had shown that this single question was highly correlated with the total scale score. The analysis of the data of another aspect of the study, an examination of paternal influence (Radin, Williams, & Coggins, 1993; Williams, 1995), showed that this one question pertaining to fathers was predictive of academic and social competence of the children. In the possibility that life on a small rural Native American reservation contributed to the influence exerted by the primary caregiver, this variable was examined in relation to grandfather influence.

Three separate views were taken of the question of percent time the grandfather was the child's primary caregiver: 1) mother's estimate; 1) father's estimate; and 3) a mean of mother's, father's, and grandfather's estimates. These items tapped into a special kind of involvement, that is, serving as the person ultimately responsible for the care of the child. According to Lamb (1987) responsibility is a type of paternal caregiving which should be differentiated from general or overall involvement in rearing the child (e.g. assisting the

mother in her activities), and it has not been sufficiently investigated. In Table 2 are presented the means and standard deviations for all the independent variables.

Insert Table 2 about here

As can be seen in Table 2, mothers estimate that grandfather was the primary caregiver 4.5% of the time for the group and 3.8% for males. Fathers estimate grandfathers were primary caregivers 4.3% of the time for the group and 3.2% for males. A paired t-test showed the two sets of views did not differ significantly from one another. The grand total estimate was 4.0% for the group and 3.8% for males.

Quality. To assess the quality or degree of grandpaternal nurturance, a modified version of the Parent Perception Inventory (Hazzard, Christiansen, & Margolin, 1983) was incorporated into the questionnaire. This inventory was a set of 7 items: How often does the child's grandfather (1) tell the child when he likes what the child did?; (2) have a good conversation with the child?; (3) let the child help figure out problems?; (4) do things with the child that the child likes to do?; (5) say nice things to the child?; (6) help the child when the child needs it?; and (7) tell the child stories?

From this scale three variables for grandpaternal nurturance were created: 1) a mean of mothers' responses; 2) a mean of fathers' responses; and 3) a mean of mother, father, and grandfather responses. A Pearson product moment correlation

indicated that mother and father views of grandfather nurturance were significantly correlated, $r = .68$ $p < .05$. The Cronbach alpha coefficient was .95 for mother's view and .93 father's view.

Dependent Variables

The dependent variables can be classified into 2 categories: (1) variables which assessed children's academic functioning; and (2) variables which assessed children's social functioning. None of the Headstart teachers completed the rating forms appropriate for pre-school children. As a result, all of the dependent variables pertain to children in grades K - 5. The teachers at the Brimley Elementary School were Anglo-American. Approximately 40% of the students were American Indian from the Bay Mills Community (Robbins, 1990).

The academic functioning variables included: (1) teacher assigned report card grades (a mean across 6 marking periods); (2) post-test scores in reading, language, and mathematics as recorded on the report card; (3) the Otis-Lennon School Ability IQ Test (Otis & Lennon, 1977); and (4) two adaptive functioning items, school performance and learning, from Achenbach's Teacher's Report Form of the Child Behavior Check List (CBCL) (Achenbach & Edlebrock, 1986).

Social functioning variables included: (1) teacher assigned report card grades for student responsibilities and for social behavior (a mean across 6 marking periods); (2) two adaptive functioning items, working hard and happy, and the problem behavior items from Achenbach's Teacher's Report Form of

the Child Behavior Check List (CBCL); (3) teachers' report on an American Indian Adaptive Functioning Check List (AICL); and (4) teacher predictions for the student's future community leadership. The means and standard deviations for all the dependent variables are reported in Table 2.

The school report card, issued in June for the 1990-91 academic year included grades across 6 marking periods. An average was taken for the grade given in each subject across all 6 marking periods. Table 2 shows that the report card grades indicated that the children were doing well, averaging grades between good and excellent. The post-test scores were given in the third and sixth marking period. A mean was also taken of these 2 scores.

The Teacher's Report Form of the Child Behavior Check List (CBCL) is a valid, reliable, standardized teacher rating form about social performance for students aged 6 to 11 years (Achenbach & Edlebrock, 1986). The subscales presented are from the 1986 edition of the Teacher's Report Form profile as this was the version mailed to us when the instrument was ordered. The teacher's portion yields scores in the categories of Adaptive Functioning and Problem Behavior. To determine overall school performance teachers were asked to evaluate pupils' current performance in each academic subject using a 5-point scale. A mean rating for all academic subjects was computed. The mean obtained is in the Adaptive Functioning category. To determine other aspects of adaptive functioning the teachers were asked to compare the student to typical pupils of the same

age and then rate them on a 7-point scale. Children were also rated on 113 behavioral problem items on a 3-point scale. The 113 items were factor analyzed by Achenbach and his colleagues and the items were placed into 8 categories that emerged from the factor analyses, e.g., unpopular, self-destructive..

Scores on the adaptive functioning items and problem behavior factors were computed for responses from each child's primary teacher and also by the secondary teachers (i.e. special education teacher, and teacher aides) if these individuals were involved. These raw scores were then assigned a percentile which was provided by the manual for the CBCL (Achenbach & Edlebrock, 1986). A mean was taken of the percentiles of each item of the secondary teachers. This mean will be identified simply as the secondary teachers' mean. Pearson product moment correlations and paired *t*-tests were used to determine whether or not the primary teachers and the secondary teachers were using a common anchor in their ratings.

Those CBCL items which had a *p* value of less than .2 for the correlation between the percentile of the primary teachers and of the secondary teachers' means and where the result of a paired *t*-test was not significant were kept in the study; the others were dropped. Through this procedure 9 items were retained. An average was then taken of the primary teachers' and secondary teachers' mean scores for each of the 9 items. Two of these items, school-performance and learning, were placed in the category of academic functioning. The remaining 7 items, working hard, happy, unpopular, self-destructive, obsessive

compulsive, inattentive, and nervous-overactive were placed in the category of social functioning. The means and standard deviations of the 9 items appear in Table 2. The scores indicated that the children were at average levels of adaptation and socioemotional functioning.

There were seven additional variables, all incorporated into the AICL, used to evaluate adaptive functioning in an American Indian population. The instrument was developed by the Native American graduate students working on the project. The questions assessed adaptive personality traits that researchers believed were important in most American Indian populations (Brant, 1990; Locust, 1988; Sack, Beiser, Phillips, Baker-Brown, 1989). Teachers were asked to rate students using a 3 point scale. Items included were: (1) shows sense of responsibility to class and school; (2) is liked by other students; (3) is dependable; (4) shows respect for others; (5) initiates new activities or ideas; 6) displays good sense of humor; and 7) can take a joke. Because humor is such an important adaptive behavior for American Indians the American Indian graduate students working on the study felt it was necessary to measure both the ability to be humorous and the ability to be the subject of humor. An average was taken of the responses of the primary teacher and the mean of the secondary teachers. As can be seen in Table 2, the children were at average levels of adaptation.

To assess teacher expectations for the student's future community involvement, a characteristic esteemed by American

Indians (Brant, 1990) and by the members of the Bay Mills Tribal Council (J. Parker, personal communication, May 4, 1990), an Index of Community Leadership was created. It consisted of 3 items to be rated using a 3 point scale. Each of the child's teachers were asked what they thought the child's chances were of becoming: (1) a good member of the community; (2) a political leader in the community; and (3) a cultural leader in the community. The 3 items were all significantly intercorrelated ($p < .001$). An average was taken of the responses of the primary teachers and the mean of the secondary teachers for each question. An average was then computed for the overall mean rating for each question. The Cronbach Alpha for this scale was .93

Antecedents

Health. To evaluate health of the grandfathers both mothers and fathers were asked on a 4-point scale "In general how would you describe the target child's grandfather's health?".

Work Status. To evaluate grandfathers work status the question was asked of mothers and of fathers, "Is the target child's grandfather currently working for pay?" The scoring of this question was: yes = 1 and no = 2. Mothers reported that for the total group 54% of the grandfathers were working for pay and for males 44% were working for pay. Fathers reported that for the total group 38% of the grandfathers were working for pay and for males 30% were working for pay.

Age. Grandfather's age was not used in the analysis because the only grandfathers for which we had that information were the 3 who responded to the question. Unfortunately mothers and fathers were not asked for the age of those grandfathers not living in the home. Therefore, mother's and father's age was used as an indicator of grandfather's age. The assumption was that the younger the parent the younger the grandparent.

Analyses

In the analysis, Pearson product moment correlations were computed between the independent and dependent variables, and between the antecedent variables and the independent variables. Because of the small number of girls represented in this sample gender analysis included males only, as noted previously. Analysis were performed only when the total N was 9 or more. Unfortunately the small N precluded our performing regression analyses to control demographic variables in examining the relationships.

Results

Quantity of Grandfather Participation

The significant correlations pertaining to the amount of grandfather involvement are presented in Table 3.

Insert Table 3 about here

Academic functioning

GF-PICCI. Father's view of grandfather's higher level of involvement in child care for the group as a whole was

significantly associated with higher language grades as recorded on the school report card. There was a trend for this association to continue with the subgroup of males. With respect to the grand total view of grandfather's involvement, for the group as a whole there was a trend for the science grade and the math post-test as recorded on the school report card to be associated with higher levels of grandfather participation in child care. For boys the correlation became significant. In addition, higher levels of grandfather involvement was significantly correlated with boys science report card grades.

Social functioning

GF-PICCI. For the group as a whole there was a trend for the teacher's view of the child as a future community leader to increase as father's view of greater grandfather involvement increased. With respect to the grand total view of grandfather's involvement, for the group as a whole and for males, students experiencing greater grandpaternal participation were rated by their teachers as being less self-destructive. For both the group as a whole and for the subgroup of males there were no negative effects in either academic or social functioning.

Percent time grandfather is primary caregiver. In mother's view, greater amount of time grandfathers spent as primary caregivers was associated with teacher reports that children showed greater respect for others for the entire group. In father's view, for the entire group, greater amount of time spent by grandfather as primary caregiver was associated with

less nervous-overactive behavior in the grandchildren as reported by teachers on the CBCL. Teachers also reported the children were more likely to initiate new activities.

As can be seen in Table 3, the grand total view indicates that for the entire group the greater the amount of time that grandfather spent as a primary caregiver the better the child's social functioning. Children experiencing a greater amount of caregiving by their grandfathers were rated by their teachers as being less nervous-overactive, showing a greater responsibility to class and school, being more dependable, more respectful, and more likely to initiate new ideas or activities. Furthermore, when teachers were asked to predict the student's future community involvement the child was rated as more likely to become a leader in the community. For males higher levels of grandpaternal involvement as a primary caregiver led to decreased inattentiveness and a trend for a decrease in nervous-overactive behavior.

Antecedents

GF-PICCI. In mother's view of grandfather involvement for the entire group and for males, grandfathers were more involved in caregiving with younger grandchildren. In father's view of grandfather involvement for the group as a whole and for males, grandfather employment was associated with greater amount of time grandfather spent as a primary caregiver. For the grand total view of grandfather involvement, for the group as a whole and for males, grandfather working, along with his good health contributed to the overall report of the amount of time

grandfather spent as a primary caregiver as reported on the GF-PICCI. In almost all cases it was the father's report, and not mother's report, that was significant.

Percent time grandfather is primary caregiver. For father's view once again it was the report that grandfather was working and was in good health that was associated with a greater amount of time spent by grandfathers in the care of their grandchildren. With respect to the grand total view the report that grandfather was working and mother's lower age contributed to the amount of time grandfather spent in caregiving.

Quality of Grandfather Participation

The significant correlations pertaining to the quality of grandfather' involvement are presented in Table 4.

Insert Table 4 about here

As can be seen in Table 4, mother's report of higher levels of grandpaternal nurturance was associated with lower scores on the Otis-Lennon School Ability IQ test. Father's report of higher levels of grandpaternal nurturance was linked with higher grades in Language for the total group. No significant correlations emerged for males. Furthermore, there were no significant correlations between grandfather nurturance and social functioning.

The antecedents to grandpaternal nurturance pertained only to father's view. Younger mothers and fathers along with

father's report that the grandfather was working were associated with grandpaternal nurturance for the entire group of children. There were no significant correlations pertaining to males.

Discussion

Because of the small sample size the conclusions drawn must be treated as tentative. The findings are consistent however and do, appear to provide insights into the consequences and antecedents of Ojibwa grandparenting styles.

Quantity of Grandfather's Participation

The first hypothesis, that there would be a positive relationship between the quantity of grandfathers' involvement in child rearing and their young grandchildren's academic and social functioning, was generally supported. However, the portion of the hypothesis which pertained to academic functioning was only partially supported. Grandfather's overall involvement in child care had an impact in the areas of math and science, particularly for males.

Other aspects of this study of the Bay Mills Reservation examined the contributions made by Ojibwa fathers towards their children's academic and social functioning. Results of the paternal component (Radin, Williams & Coggins, 1993; Williams, 1995) indicated that children's academic performance was positively impacted by the percentage of time father was available as a primary care giver but not by his overall involvement as measured by the PICCI. In contrast, the results in Table 3 seem to indicate that children's academic performance is positively impacted by grandfather's overall involvement as

measured by the GF-PICCI and not by the percentage of time he spends as a primary care giver. Perhaps when fathers spend many hours away from home working as fishermen or working evenings in the casinos, the amount of time spent at home as the primary caregiver becomes more salient than his overall general involvement. In contrast, when grandfathers are generally invested in Native American families, children's academic performance is enhanced by their efforts to model a highly respected, powerful family elder.

The portion of the hypothesis which pertained to social functioning was supported primarily for the group as a whole but not for grandsons. A close inspection of the results in Table 3 which pertained only to the CBCL and the AICL for the total group (both 7 item scales) reveals that 33% of the significant correlations pertained to results on the CBCL, a mainstream standardized test. Specifically, the children showed less self-destructive and nervous-overactive behavior when grandfathers were involved in child care. On the other hand, 67% of the significant correlations pertained to behaviors included in the AICL. When grandfathers were more available the children displayed higher levels of; respect for others, the ability to initiate new activities, responsibility to class and school, and dependability. It appears that there is a much stronger link between grandfather involvement and Native American children's adaptation to Native American codes of social behavior than between grandfather involvement and the children's overall social adaptation. In contrast, the earlier report of this

study (Williams, 1995) examining the contributions made by paternal involvement reported that, for the total group of children, all of the 3 significant correlations between the quantity of father involvement and the CBCL and AICL dependent variables pertained to results reported on the CBCL; none of the results related to the AICL scores. Thus it appears that grandfathers rather than fathers are the socializers responsible for children's learning appropriate American Indian behavior. Further it appears that for the correct social behaviors relevant to Native American families to be learned grandfathers may have to be a critical person in the child's life rather than one among several caregivers. Perhaps greater time spent as a primary caregiver is critical because it allows the grandfather more time for direct instruction on proper American Indian behavior with his grandchild and makes him a more powerful socialization influence in the child's life.

The results are in keeping with the literature which states that proper codes of American Indian behavior are taught to children by their grandparents (Locust, 1988; Warren 1984). It appears that these Ojibwa grandfathers are directly involved in the passing on of traditional rules and behavioral expectations to their grandchildren. Moreover, their transmission is directed towards the group as a whole and does not particularly single out grandsons for special favor.

Quality of Grandfather Participation

The second hypothesis, that there would be a positive relationship between the quality of grandfathers' involvement in

child rearing and their young grandchildren's academic and social functioning, was not supported. With respect to academic functioning, the picture is mixed for the total group as there was evidence for increased grandpaternal nurturance to be positively associated with higher language grades and negatively associated with the Otis Lennon School Ability Test. It is possible that both these correlations occurred by chance.

There was not enough evidence to support that portion of the hypothesis which pertained to social functioning for either the total group or for males. However, it can be said that there were no negative social outcomes attributed to grandpaternal nurturance.

Antecedents

The results which developed from the analysis of antecedents to the amount of involvement in child care indicated that when grandfathers were employed and were healthy they became more available as caregivers for their grandchildren. Grandfathers who were not working were more likely to be older and in poorer health. Grandfathers who were employed were likely to be younger, healthier, and in a better position to contribute to family functioning by being actively involved with their grandchildren in both a caregiving and nurturing capacity. With respect to grandsons, the picture which emerged was that grandfathers who were employed and who were younger were more involved as primary caregivers with their grandsons. Possibly this is because involvement with male grandchildren may require physical robustness as well as social competence. The finding

that grandfathers with younger grandchildren were more involved in child care is consistent with much of the literature (Clark, 1969; Kahana & Kahana, 1970; Thomas, 1984).

The antecedents for quality of grandpaternal participation followed this same pattern. For the group as a whole, grandfathers were more nurturant when they were younger and employed. The finding of nurturance being related to younger age is at odds with previous studies which have suggested that males become more nurturant as they get older (Guttmann, 1977; Livson, 1981). On the other hand this finding is in agreement with the findings of Tinsley and Parke (1988) who found that those in the middle age group (50-56 years old) as opposed to younger (36-49 years) or older grandfathers (57-68 years) were rated significantly higher on competence and play style. Perhaps being nurturant with young children takes more energy and better health than being nurturant with older children. Thus the positive relationship between nurturance with young children and age may not continue indefinitely regardless of the male's age. As Tinsley and Parke (1988) suggest the relationship may be curvilinear.

It was notable that all of the significant correlations between work and health status and grandfather involvement came from fathers' responses and not mothers'. Perhaps this occurs because social life tends to be sex segregated on the reservation (K. Coggins, personal communication, October 26, 1994). As a result males may know more about the employment and health of other males with whom they associate a great deal

outside the home. Since the reports of mothers and fathers concerning grandfathers' health and particularly grandfathers' work status were not identical the fathers' information may be more accurate. On the other hand the finding which pertains to the child's age and grandfathers' quantity of involvement came from mothers' responses. It is likely that mothers are more aware than fathers of grandfather's activities when he is in the home interacting with the grandchildren or she is in the home more often with the children and the grandfather.

The overall picture which emerged from this study was that higher amounts of time spent by Ojibwa grandfathers in rearing elementary school aged children contributed to the passing on of Native codes of social behavior to their grandchildren. However, these American Indian grandfathers appear to promote the cognitive development of the 5 - 11 year old children (especially males) in their families by their more active overall participation in child rearing.

Table 1

Means of Demographic Variables for the Total Group and for Males

Variable	Total Group N	Mean	SD	Males N	Mean	SD
M's age	15	34.1	6.9	10	35.2	7.3
F's age	14	33.7	7.7	11	35.5	7.1
GF's age	3	63.0	10.3	3	63.0	10.3
M's years of education	15	12.9	1.9	10	13.5	1.9
F's years of education	14	13.1	1.3	11	13.1	1.4
GF's years of education	3	11.0	1.0	3	11.0	1.0
M's occupation[a]	11	5.6	1.1	8	5.6	1.3
F's occupation[a]	12	4.0	2.0	9	4.0	2.2
GF occupation[a,b]	9	5.0	1.8	5	5.4	2.3
Child's age[c]	19	8.6	2.8	13	8.8	2.8
Child's grade[d]	19	5.0	2.6	13	5.1	2.6

Note. M refers to mother; F refers to father; GF refers to grandfather. Ms and Fs were not asked about GF's age or education.

[a]Hollingshead's (1975) Four-Factor Index of Social Status rates occupations on a 9-point rating scale with 9

Table 1 (Continued)

representing the highest rating and 1 the lowest. A rating of 4 includes skilled manual workers and craftsmen; a rating of 5 includes clerical and sales workers; a rating of 6 includes technicians and semiprofessionals. [b] Data reported come from mothers' and fathers' reports about the grandfather living closest to the target child. [c] Data reported by the child's parent. [d] Data reported on the school report card. Scoring for grade in school ranged from Headstart = 1 to fifth = 7. Therefore, the mean grade in school was about third grade for both the total group and for boys.

Table 2

Means and Standard deviations for Independent, Dependent, and Antecedent Variables for the Entire Group and for Males

	Total Group			Males		
	N	Mean	SD	N	Mean	SD
INDEPENDENT VARIABLES						
Quantity of Involvement						
M's view GF-PICCI	13	9.0	4.5	9	10.2	3.9
F's view GF-PICCI	13	8.5	7.5	10	8.5	8.4
Grand total GF-PICCI	18	8.1	4.7	12	8.8	4.7
M's view %time GF is primary caregiver	15	4.5	8.2	10	3.8	4.7
F's view %time GF is primary caregiver	14	4.3	8.1	11	3.2	6.0
Grand total %time GF is primary caregiver	19	4.0	5.9	13	3.8	4.3
Quality of Involvement[a]						
M's view of GF nurturance	14	3.2	1.3	9	3.1	1.3
F's view of GF nurturance	13	3.2	1.2	10	3.1	1.2
Grand total GF nurturance	18	3.2	1.2	12	3.1	1.1

Table 2 (Continued)

	Total Group			Males		
	N	Mean	SD	N	Mean	SD
DEPENDENT ACADEMIC VARIABLES						
School Report Card Academic Grades[b]						
Reading	16	5.3	0.8	11	5.2	0.9
Language arts	16	5.4	0.7	11	5.3	0.8
Mathematics	16	5.7	0.5	11	5.3	0.5
Science	16	5.3	0.8	11	5.2	0.5
Social studies	14	5.7	0.6	10	5.6	0.7
Test scores						
Reading post-test	14	91.9	9.3	10	90.7	10.6
Language post-test	14	85.5	12.0	10	84.7	14.2
Math post-test	14	91.9	5.9	10	92.2	5.8
Otis Lennon School Ability IQ Test	13	103.4	15.2	10	102.3	17.3
School Report Card Social Variables[b]						
Student responsibilities	16	5.5	0.7	11	5.3	0.8
Social behavior	16	5.9	0.3	11	6.0	0.0
Child Behavior Check List Academic Percentiles						
School performance[c]	15	49.5	27.2	11	42.5	31.7
School learning[d]	15	46.2	24.6	11	44.8	30.2

Table 2 (Continued)

	Total Group			Males		
	N	Mean	SD	N	Mean	SD
DEPENDENT SOCIAL VARIABLES						
Child Behavior Check List Social Percentiles						
Working hard[d]	15	51.5	22.2	11	49.0	24.8
Happy[d]	13	45.7	25.5	10	44.5	29.3
Unpopular[e]	15	74.9	7.0	11	74.9	7.1
Self-destructive[e]	15	75.6	6.4	11	75.3	7.4
Obsessive-compulsive[e]	15	76.5	5.8	11	75.9	6.7
Inattentive[e]	15	75.7	8.8	11	77.1	9.8
Nervous-overactive[e]	16	70.3	9.1	11	72.2	4.3
American Indian Adaptive Functioning Teacher Ratings[f]						
Sense of responsibility to class	16	2.2	0.5	11	2.0	0.4
Liked by students	15	2.5	0.4	10	2.5	0.4
Dependable	15	2.2	0.6	10	2.1	0.6
Shows respect	15	2.2	0.4	10	2.2	0.3
Sense of humor	16	2.3	0.5	11	2.2	0.5
Can take joke	16	2.2	0.5	11	2.1	0.5
Initiates new activities or ideas	16	1.7	0.7	11	1.4	0.4
Teacher Expectations For Child Regarding Community[f]						
Index of future community leadership	16	3.0	1.0	11	2.8	1.0

Table 2 (Continued)

	Total Group			Males		
	N	Mean	SD	N	Mean	SD
ANTECEDENT VARIABLES						
Grandfather's health status[h]						
Mothers' response	14	2.9	0.5	9	2.7	0.5
Fathers' response	13	2.6	1.0	10	2.5	1.0
Grandfather working for pay[i]						
Mothers' response	13	1.5	0.5	9	1.6	0.5
yes	7	54%		4	44%	
no	6	46%		5	56%	
Fathers' response	13	1.6	0.5	10	1.7	0.5
yes	5	38%		3	30%	
no	8	62%		7	70%	

Note. M refers to mother; F refers to father; GF refers to grandfather.

[a]See text for wording of questions. Scoring: 1=never; 2=a little; 3=sometimes 4=pretty much; 5=a lot. [b]Scoring: 1=conference requested; 2=needs improvement; 3=shows improvement; 4=satisfactory; 5=good; 6=excellent. [i]On the CBCL teachers are asked to evaluate pupil's current performance in each academic subject using a 5-point scale; 1=far below grade and 5=far above grade. A mean rating for all academic subjects is computed. A score of 2.9 is at the 50th percentile. The

Table 2 (Continued)

score is in the Adaptive Functioning category. [d]Teachers are asked to compare the student being evaluated to typical students of the same age. A 7-point scale is used with 1=much less and 7=much more. The percentile each score presents is provided. A score of 3.8 for each item is at the 50th percentile. The scores are in the Adaptive Functioning category. [e]Teachers are asked to rate children on 113 items using a 3-point scale with 0=not true as far as you know, 1=somewhat or sometimes true, and 2=very true or often true. These are placed into factors by Achenbach (1986) all of which are in the category of Behavior Problems. The total score of the items in each factor is calculated and the percentile for the total score for each factor is reported. The percentiles are provided by Achenbach (1986). The range of percentiles is 69th to 98th. Thus, if the teacher rates all the items as "not true" the total score would be 0 for each factor, and the percentile would be 69th, indicating that the problem is not present. [f]Scoring: 1=not true; 2=somewhat true; 3=very true. [g]Scoring: 1=less than most; 2=less than some; 3=about the same as others; 4=better than some; 5=better than most. [h]Scoring: 1=poor; 2=fair; 3=good; 4=excellent. [i]Scoring: 1=yes; 2=no.

Table 3

Significant Correlations Between Quantity of Grandfather's Participation and the Academic, Social, and Antecedent Variables

	Total Group		Males	
Variable	N	r	N	r
ACADEMIC FUNCTIONING				
F'S VIEW OF GF-PICCI				
Language grade	10	.69*	8	.67+
GRAND TOTAL GF-PICCI				
Science grade	14	.46+	10	.69*
Math post-test	13	.49+	9	.72*
SOCIAL FUNCTIONING				
F'S VIEW OF GF-PICCI				
T's index of future community leadership	10	.60+	8	.60
GRAND TOTAL GF-PICCI				
*tile self-destructive	14	-.59*	10	-.63*
M'S VIEW OF & TIME GF IS PRIMARY CAREGIVER				
T's view that the child shows respect for others	13	.56*	8	.32

Table 3 (Continued)

Variable	Total Group N	Total Group r	Males N	Males r
F'S VIEW OF S TIME GF IS PRIMARY CAREGIVER				
Stile nervous-overactive	11	-.85***	9	-.36
T's view that child initiates new activities or ideas	11	.72*	9	.37
GRAND TOTAL S TIME GF IS PRIMARY CAREGIVER				
Stile inattentive	15	-.41	11	-.68*
Stile nervous-overactive	16	-.55*	11	-.57+
T's view that child shows a sense of responsibility to class and school	16	.51*	11	.11
T's view that child is dependable	15	.58*	10	.22
T's view that child shows respect for others	15	.54*	10	.03
T's view that child initiates new activities	16	.67**	11	-.04
T's index of future community leadership	16	.68**	11	.42

Table 3 (Continued)

Variable	Total Group N	Total Group r	Males N	Males r
		ANTECEDENTS		
M'S VIEW OF GF-PICCI				
Child's age	13	-.58*	9	-.68*
F'S VIEW OF GF-PICCI				
F's report GF working	13	-.67*	10	-.69*
GRAND TOTAL GF-PICCI				
F's report GF working	13	-.81**	10	-.81**
F's view of GF health	13	.63*	10	.61+
F REPORT 8 TIME GF IS PRIMARY CAREGIVER				
F's report GF working	12	-.63*	10	-.72*
F's view of GF health	12	.56*	10	.41
GRAND TOTAL 8 TIME GF WAS AVAILABLE AS PRIMARY CAREGIVER				
F's report GF working	13	-.63*	10	-.73*
M's age	10	-.49+	10	-.63*

Note. M refers to mother; F refers to father; GF refers to grandfather; T refers to teacher.

+ $p < .1$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 4

Significant Correlations Between Quality of Grandfather's Participation and the Academic and Antecedent Variables

Variable	Total Group N	r
ACADEMIC FUNCTIONING		
M'S VIEW OF GF NURTURANCE		
Otis Lennon	11	-.62*
F'S VIEW OF GF NURTURANCE		
Language grade	10	-.80**
ANTECEDENTS		
F'S VIEW OF GF NURTURANCE		
M's age	9	-.68*
F's age	13	-.58*
F's report GF working	13	-.77**

Note. M refers to mother; F refers to father; GF refers to grandfather.

* $p < .05$; ** $p < .01$.

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